



Gateway Air Repair

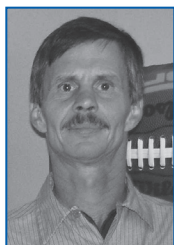
A Newsletter for the Vehicle Repair Industry

Volume 9 Number 2

March 2007

MRRT Tackles Data Communication Problem

By Linda Wegrzyn



Mark McKern,
MRRT and Owner
of Mattese Auto
Repair Inc.,
St. Louis, Mo.

Last year Mark McKern of Mattese Auto Repair encountered an unusual OBDII failure. His customer's 1996 Plymouth Voyager went into the Gateway Clean Air Program (GCAP) emissions testing station with the check engine light off. As soon as the vehicle was hooked up to the scan tool, the MIL light came on with two diagnostic trouble codes (DTC's). The first was P1698 – no CCD/J1850 messages received from the transmission control module, which is an electronic communications protocol. The second was P0600 – serial link malfunction.

When the customer brought the vehicle to Mattese Auto, they followed the usual diagnostics procedures on Alldata (their electronic information system), and went through the trouble code trees on the monitor. They also checked for technical service bulletins and found one on reflashes for 1996 Chrysler computers. The vehicle was taken to the dealer for the reflash and this took care of the transmission code. However, the P0600 code remained.

Nothing could be found that would have caused this DTC, so the codes were cleared, and the monitors were re-set. When the vehicle was hooked up to the scan tool, there were no codes so it was taken back to the GCAP station. But when the vehicle was tested at the station, the P0600 came back. The code didn't show up when the engine was running, but only on start-up when the scan

tool was connected. "I thought it could be interference from the heater fan, a spark plug wire too close, or a loose connection, but none of these panned out," said Mark.

"The [P0600] code didn't show up when the engine was running, but only on start-up when the scan tool was connected."

"The vehicle was having trouble with the ignition switch sticking in the start position somewhat, and we thought maybe it was staying in the start position too long and wouldn't let the voltages go through correctly," Mark noted. "We installed a new ignition switch, which it needed, but this didn't fix the serial data problem."

Going further through the process of elimination, one possibility was alternator ripple.

The alternator produces AC voltage and current. The battery requires DC voltage and current to charge properly. Diodes located within the alternator change (rectify) the AC to DC. However, a small amount of AC can still be present and no harm is done. Problems can develop when alternator diode faults permit unacceptable amounts of AC to pass into the vehicle electrical system.

"We looked at the alternator ripple several times and it looked fine. Then one time, just by luck, I was reading it
(continued on p. 4)

Honda: Bogus DTC

Honda says that some 2003 Element models with manual gearboxes (VINs 5J6YH1... 3L000001 through 5J6YH1... 3L009732) may mistakenly turn on the MIL and store DTC P0420 (catalyst system efficiency below threshold) in PCM memory. (See Technical Bulletin on p. 2)

The Japanese carmaker attributes the bogus code to the PCI incorrectly interpreting the signals of certain key sensors. Reprogramming the computer with a new software calibration should turn off the light and prevent a recurrence. You'll find the new software files on Interactive Network CD's produced from June 2003 and later.



Recent Technical Bulletins



Service Bulletin

03-031



Applies To: **2003 Element with M/T** – From VIN 5J6YH1...3L000001 thru 5J6YH1...3L009732

July 8, 2003

2003 Element: MIL Comes On With DTC P0420

(Supersedes 03-031, dated June 3, 2003)

SYMPTOM

The MIL is on and DTC P0420 (catalyst system efficiency below threshold) is set.

PROBABLE CAUSE

Specific driving conditions may cause the ECM/PCM to incorrectly interpret sensor inputs, setting DTC P0420.

CORRECTIVE ACTION

Update the ECM/PCM software using the Honda Interface Module (HIM).

REQUIRED SPECIAL TOOLS AND EQUIPMENT

- Interactive Network (iN) CD (June '03 or later)
- iN Workstation
- Honda Interface Module (HIM): T/N EQS05A35570
- PC Interface Cable (RS232): T/N VET-02002832
- AC Adapter (110 VAC/12 VDC Power Supply): T/N VET-02002426

These tools are already at your dealership. To order additional HIMs, interface cables, or AC adapters, call the Honda Tool and Equipment Program at **1-888-424-6857**. Phone lines are open Monday through Friday from 7:30 a.m. to 7:00 p.m. CT.

WARRANTY CLAIM INFORMATION

In warranty: The normal warranty applies.

OP#	Description	FRT
123503	Retrieve the DTC and clear codes with the HDS	0.3
125517	Update the ECM/PCM software with the Honda Interface Module	0.3

Failed Part: P/N 37820-PZD-A02
H/C 7371180

Defect Code: 072

Contention Code: B03

Template ID: 03-031A

Skill Level: Repair Technician

Out of warranty: Any repair performed after warranty expiration may be eligible for goodwill consideration by the District Parts and Service Manager or your Zone Office. You must request consideration, and get a decision, before starting work.

REPAIR PROCEDURE

1. Use the HDS to clear DTC P0420.
2. Make sure you have the iN CD (June '03 or later) loaded into your iN master terminal. If not, load the CD using the instructions that come with it.
3. Update the ECM/PCM software with the Honda Interface Module (HIM). Refer to S/B 01-023, *Using the Honda Interface Module to Update Control Units/Modules*.

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ATB 25261-25406 (0307)

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CUSTOMER INFORMATION: The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by "do-it-yourselfers," and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Honda automobile dealer.

Technical Bulletin



Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Golf, Jetta, GTI, New Beetle, Golf Cabrio	1999	2.0L (AEG, ABA)	All	All	All

Condition

DTC B0423 Stored in ECM when using Generic Scan Tool

Incorrect Diagnostic Trouble Code may be displayed when using a generic scan tool.

When using a generic scan tool while diagnosing model year 1999 vehicles equipped with a 2.0L engine, an incorrect DTC B0423 may be displayed by itself or along with P1176 (17584). This incorrectly displayed DTC has the same meaning as P1176 (17584) and therefore P1176 (17584) diagnostics should be followed to correctly repair the vehicle.



Note:

DO NOT replace the ECM for this condition.

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Technical Background

The service procedures for DTC P1176 also apply to the condition which results in the storage of DTC B0423.

Production Solution

Vehicle is no longer in production.

Service

The DTC display is incorrect when using a generic scan tool, the OBD monitor for DTC P1176 O2 Correction Behind Catalyst, B1 Limit Attained functions properly. Therefore should you encounter a DTC B0423, follow the diagnostics for DTC P1176

Warranty

Information only.

Required Parts and Tools

No special tools required.

No special parts required. Always see ETKA for the latest part(s) information

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Data Communication Problem

continued from page 1

when I started the vehicle. I had it hooked up to the scope and it went crazy on start up. As soon as the car started running the ripple was fine, it was a perfect reading. The only time that serial data is read on the 1996 Chrysler is on the first few seconds of start up”.

KEY: “The alternator produces AC voltage and current. The battery requires DC voltage and current to charge properly. Diodes located within the alternator change (rectify) the AC to DC. However, a small amount of AC can still be present and no harm is done. Problems can develop when alternator diode faults permit unacceptable amounts of AC to pass into the vehicle electrical system.”

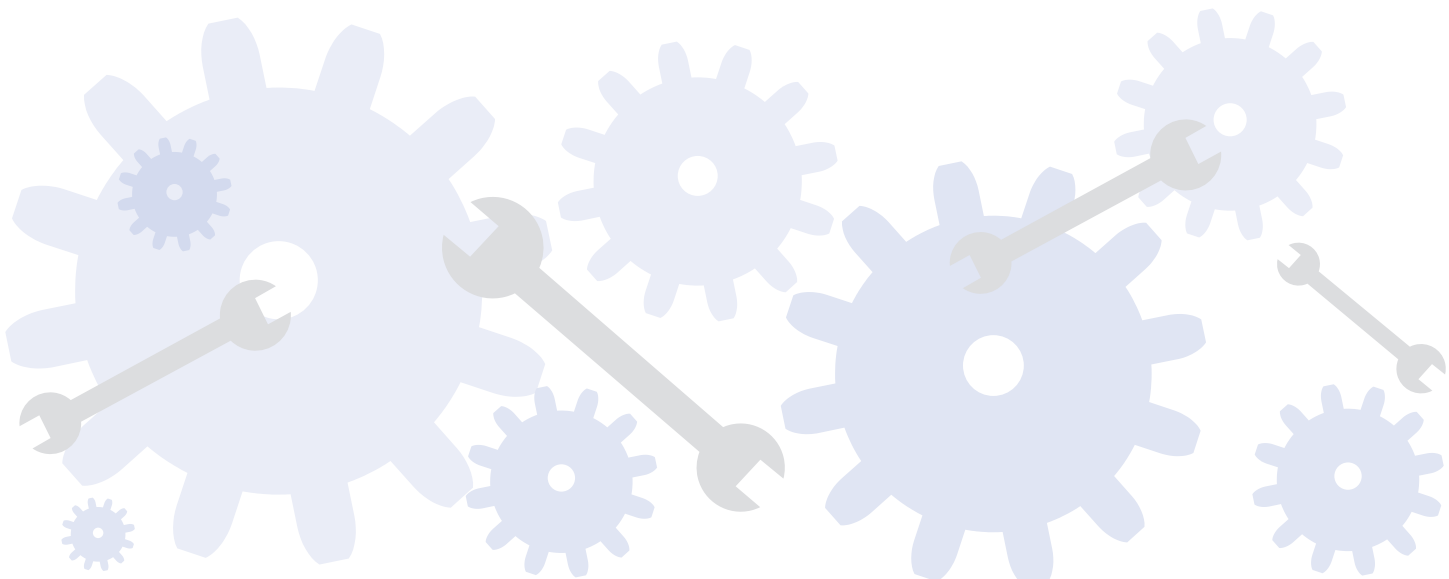
Computer modules on vehicles communicate information electronically between themselves via a bus. A bus is a computer term for a wire (or set of wires) that carries electronic messages from one part of a computer-controlled system to another. The bus in most vehicles consists of one or two wires which carry the serial data stream.

“We put a new alternator on and it solved the problem,” said Mark. The labscope was the critical tool needed to

decipher the mystery of the serial link malfunction. “Some of the newer electrical system testers don’t read ripple. To find a ripple problem requires a labscope. Don’t check the normal way of checking it at idle and at cruise speed, but actually look at the ripple pattern under starting conditions. We use the Snap-on 450 model. If I didn’t have that piece of equipment, we’d have never found this.”

This was one of Mattese Auto’s most time-consuming OBDII cases. However, Mattese has not had to spend a lot of labor on readiness issues due to their thorough examination of enabling criteria. “If techs read what it takes to set the readiness monitors and follow all of the steps carefully, they can usually get the monitors ready in about 40 minutes. But if you skip the enabling criteria, it’s like trying to stop the wind, it just won’t happen. By taking the time to go through the enabling criteria carefully it will save you time in the long run. Most require a cold soak, so you have to get the customer to leave the car overnight.” After repairs, Mattese Auto always clears the codes for their customers and gets all the monitors back to ready. “Giving the car back to the customer to drive and re-set the monitors usually doesn’t work,” Mark emphasized.

Finding the source of evap codes has been the biggest OBDII challenge at Mattese. “Our evap tester is the best investment we have ever made. If you don’t have the tester, you’re guessing and probably going to get in trouble. Our Snap-on evap tester has cut down on our diagnostic time a lot, and we use it on vacuum leaks and a variety of other issues”.



Help is Just a Phone Call (or Click) Away

The following resources are presented for informational purposes only and are not necessarily official productions of the Missouri Department of Natural Resources or the Gateway Clean Air Program. No one affiliated with the Gateway Clean Air Program is responsible for the content or accuracy of any unofficial site listed below:

EMISSIONS TESTING INFORMATION

- www.gatewaycleanair.com
- Gateway Clean Air Program repair industry hotline: 1-888-748-0377
- Gateway Clean Air Program general information hotline: 1-888-748-1247
- Missouri Department of Natural Resources: (314) 416-2115 – Information about Missouri Recognized/Qualified Repair Technicians (MRRT/MQRT) status and technical assistance

EMISSIONS REPAIR INFORMATION

Assistance Finding Emissions Parts:

- HELP Smog Parts: 1-800-544-4357
- Brown Recycling: 1-800-367-9271 – For information on certified used catalytic converters
- www.tomco-inc.com or (314) 815-6944

EMISSIONS-RELATED HEALTH AND SAFETY INFORMATION

- www.lungusa.org
- www.envirosafeshop.com

INDUSTRY SUPPORT

- www.iatn.com
- www.asecert.com
- www.acc-online.org
- www.sae.org
- www.theautomotivetechshop.com
- www.carcarecouncil.org

OBDII INFORMATION

- www.obdclearinghouse.com
- www.obdiicsu.com
- www.obdii.com
- www.autotap.com
- bob@servicemycar.com (for free OBDII software)

TRAINING AND RESOURCES



www.theautochannel.com
www.aspireinc.com or 1-800-247-1099
www.caat.org
www.ccar-greenlink.org
www.automotivetestsolutions.com
www.secondchancegarage.com
www.autoed.com
www.beyondparts.com
www.fuelline.com
www.fedworld.gov/pub/auto/auto.htm
www.aera.org
www.apra.org
www.autoshop101.com
www.toolsforeducation.com
www.bergwall.com
www.diagnostichotline.com
www.learntofixcars.com
www.asetestprep.com
www.asecert.org
www.allexperts.com
www.asld.com
www.smogfree.com
www.car-sound.com
www.mad-mechanic.com
www.carleysoftware.com
www.aecc.be

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Check the new address box and mail to:

Gateway Air Repair Editor

PO Box 1034

St. Charles, MO 63302.

Or, e-mail information directly to:

gretchen.harman@esph.com

Training and Special Events

The following is a list of known training available in the St. Louis area. This information is for reference only and is neither endorsed nor sponsored by the Gateway Clean Air Program. To find out what training is currently being offered, please contact any of the training providers listed below. Please contact trainers to confirm dates, course costs and to arrange payment.

CARQUEST

The trainer is Vince Manship. For more information, contact Mike Mulcahy at (314) 345-4856 or visit www.carquest.com. Courses are held at South St. Louis county, O'Fallon and Belleville locations. The MRRT Training Voucher is accepted. Verify course desired is MRRT Approved.

OBD-206 Advanced Mode 06

- March 28 - 29

Mode 06 is the scan tools request for the latest test results from the PCM for all non-continuous monitors. This concept was first introduced in OBD-203. Now we will cover practical uses of Mode 06, deal with the difficult Mode 06 information from GM and Chrysler as well as review the changes in Mode 06 on CAN vehicles.

DESIGN TECHNOLOGY, INC.

The trainer is Lou Craven. For information on training offered by DTI, call (636) 939-5670 or fax (636) 477-9093. The MRRT Training Voucher is accepted. Verify course desired is MRRT Approved.

MUST Level 1 Classes

Mondays (8:30 a.m. – 3:30 p.m.)

Tuition per Tech \$166 per class or \$1,494 for Series

- 02 Waveform Analysis March 26

MUST Advanced Level 2 Classes

Wednesday and Thursday (4:00 p.m. – 7:30 p.m.)

Tuition per Tech \$166 per class or \$1,494 for Series

All classes are approved for MRRT

- Current Ramping II March 21 - 22

MUST Advanced Level 3 Classes

Tuition per Tech \$166 per class or \$1,494 for Series

- GM OBD II – Ignition Control Systems March 8

Area Trainers

Are you currently offering automotive repair training in the St. Louis area? If so, please contact the Gateway Clean Air Program to be included in future issues of the Gateway Air Repair. Please include a detailed description of your course, including topics covered, dates, costs and location. Notices may be sent to the Gateway Air Repair editor by e-mail or fax at: GCAP@esph.com or (314) 739-2901.

If the training is emissions-related and you would like it evaluated as a continuing education course offered to all Missouri Recognized Repair Technicians, please contact the Missouri Department of Natural Resources at (314) 416-2115.

Articles Wanted



The Gateway Clean Air Program wants to continue to bring readers pertinent repair information. If you have an idea for an article, or have a topic you would like discussed in a future issue, please contact the Gateway Air Repair editor by fax at (314) 739-2901.

Gateway Air Repair

is published by ESP Missouri Inc.

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Send all address changes, mailing requests and letters to the Gateway Air Repair editor at:

Gateway Air Repair

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St. Charles, MO 63302-1034



MRRT Courses

MMRT Certification Classes (4 hrs)

- March 21
- April 25
- May 23
- June 20
- July 25
- August 22

MMRT Class Information

Trainer: Angelo Vitullo

Phone: (618) 344-9982 or (314) 436-5320

Text Pager: agv3-page@dcx.com

FAX: (618) 344-7733

Pager: (877) 923-9519,

Email: agv3@daimlerchrysler.com

(These are not continuing education classes.)

Course Providers	Coordinator	Phone	Address	City	State	Zip
AASP	Ron Rieling	636-949-5990	515 N. Kingshighway P.O. Box 609	St. Charles	MO	63302
AC Delco Training Center	Mark Ingram	314-416-1946	11139 South Towne Dr.	St. Louis	MO	63128
CarQuest Technical Institute (CTI)	Mike Mulcahy	314-566-4303	800 N. 17th St.	St. Louis	MO	63106
Design Technology Inc.	Carolyn	800-466-6009	2122 H Parkway Dr.	St. Peters	MO	63376
Federal Mogul Technical Education Center	Thomas Martin	314-977-0300	6565 Wells Ave.	St. Louis	MO	63133
Forest Park Community College AutoTechnology	Andrea	314-644-9287	5600 Oakland Ave.	St. Louis	MO	63110
Lou Fusz Automotive, Inc.	Mike Hecht	314-966-5404	10725 Manchester Road	Kirkwood	MO	63122
NAPA Institute of Automotive Technology		800-292-6428	6655 Sugarloaf Pkwy.	Duluth	GA	30097
Standard Motor Products	John Graves	314-353-8929	5850 Delor	St. Louis	MO	63109
Weber State University Center for Automotive Science & Technology	Joe Thomas	801-626-7836	1504 University Circle	Ogden	UT	84114





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I'd like more information about the Gateway Clean Air Program!

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City, State, Zip _____

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☐ I'd like to receive the Gateway Air Repair electronically.

☐ I'd like to receive future issues at home.

☐ Please change or correct my address.

I am interested in:

_____ Send me OBDII brochures

_____ Training opportunities

_____ More information on becoming a Missouri Recognized Repair Technician or a Missouri Qualified Repair Technician

